



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|-------------------------------|------------------------|
| 10/566,859 | 02/01/2006 | Valerias Schmidt | SCHMIDT24 | 2177 |
| 20151 7590 09/26/2007 HENRY M FEIEREISEN, LLC 350 FIFTH AVENUE SUITE 4714 NEW YORK, NY 10118 | | | EXAMINER DESAI, NAISHADH N | |
| | | | ART UNIT 2834 | PAPER NUMBER |
| | | | MAIL DATE 09/26/2007 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/566,859 | SCHMIDT, VALERIAS | |
| | Examiner | Art Unit | |
| | Naishadh N. Desai | 2834 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20 is/are pending in the application.
- 4a) Of the above claim(s) 10-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 15-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/1/2006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 2/1/2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the attachment as claimed in claims 18 and 19 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Examiner can not clearly distinguish which part is to be considered "attachment" of the pressure ring.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet,

Art Unit: 2834

and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Rank (US 3629628).

4. As per independent claim 1:

A rotor device comprising:

a laminated core arrangement having a plurality of axial bores for conduction of a coolant (Col 2 lines 8-12 and Fig 4,90), and

two rotor pressure rings, between which for axial securement of the laminated core arrangement therebetween, wherein at least one of the two rotor pressure rings is

Art Unit: 2834

configured for routing the coolant through the axial bores (Col 2 lines 14-23, Fig 2 elements 50,52 and 90,92), and
has a plurality of coolant routing walls which project obliquely outward and are able to conceal one or more of the bores in an axial direction (Abstract and Col 4 lines 25-38, also it would be inherent for a person skilled in the art to use an oblique ring or seal capable of concealing one or more bores or holes).

5. As per dependent claim 15:

Abstract of Rank.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2-7, 9, 16, 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rank as per claim 1 above in view of Lurie et al (US 4369386).

Art Unit: 2834

7. As per dependent claim 2:

Rank discloses the claimed invention except for the shape of the pressure ring to be able to combine the axial bores into groups. Lurie et al discloses pressure rings having different shapes and bores or holes in Figures 5,7 and 8. It would have been an obvious to a person having ordinary skills in the art at the time the invention was made to modify the device of Rank with the pressure rings of Lurie et al and arrange the bores into multiple groups where the coolant stream flowing through the axial bores of each group is essentially identical. The motivation to do so would be that it would minimize leaks and increase operational reliability (Col 3 lines 5-7 of Lurie et al).

8. As per dependent claims 3,16 and 17:

Figures 5,7 and 8 of Lurie et al shows a section of a pressure ring with the bores can be divided into groups having two, three or four bores each.

9. As per dependent claim 4:

Figure 2 shows the laminated rotor with axial coolant bores where the coolant is flowing in opposite directions.

10. As per dependent claim 5:

Lurie et al clearly shows in Figures 5,7 and 8 that the pressure rings has rounded edges at predetermined areas for improving coolant flow.

Art Unit: 2834

11. As per dependent claim 6:

Rank discloses the claimed invention except for mentioning that the pressure rings can also be used as a fan. A claimed apparatus' intended use does not differentiate it from a prior art apparatus. Patentable weight is not given on the pressure ring being configured as a fan.

12. As per dependent claim 7:

Lurie et al in Figures 5,7 and 8 show a section of the pressure ring constructed in one piece of Figures 3 and 4. It would be obvious to a person having ordinary skills in the art at the time the invention was made to choose a pressure ring that is made of a single piece rather than multiple pieces. The motivation to do so would be that it would reduce parts, assembly complexity, cost and leaks.

13. As per dependent claims 9 and 20:

Rank discloses the claimed invention except for arranging the two pressure rings to be disposed in a circumferentially offset relationship by a bore or a group of bores. Lurie et al in Figures 5,7 and 8 show the different configurations of the coolant bores of the pressure rings, which can be easily arranged in groups of bores. It would have been obvious to one having ordinary skill in the art at the time the invention was made to arrange the two pressure rings to be disposed in a circumferentially offset relationship by a bore or a group of bores. The motivation to do so would be that it would minimize leakages from one chamber into another (Col 3 lines 18-20 of Lurie et al).

Art Unit: 2834

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rank as per claim 1 above in view of Page (US 5825110).

14. As per dependent claim 8:

Rank discloses the claimed invention except for disclosing the use of spheroidal graphite iron as a material for the pressure rings or end rings. Page discusses the use of graphite iron (Col 3 line 25-26). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use pressure rings made of graphite iron. The motivation to do so would be that it would provide improved strength of the pressure ring, increase the lifespan and reduce the maintenance frequency of the part.

Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rank as per claim 1 above in view of Shoykhet et al (US6657333).

15. As per dependent claim 18:

Rank discloses the claimed invention except for showing the pressure rings to have an attachment with rounded edges for improving coolant flow. Shoykhet et al teaches the use of attachments to a ring for a bore (Col 3 lines 61-67 and Col 4 lines 1-11). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Rang to include the modified pressure rings with attachments having rounded edges. The motivation to do so would be that it would improve seal life, and reduce cost and leakage (Col 1 lines 65-66 of Shoykhet et al).

Art Unit: 2834

16. As per dependent claim 19:

This limitation is a product by process limitation. The method of forming the device is not germane to the issue of patentability of the device itself. This limitation does not structurally distinguish the claim over the prior art.

Conclusion

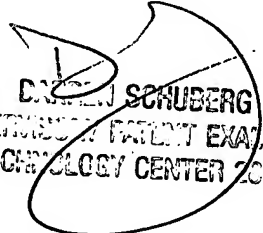
17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dreher discloses a rotor winding. Kreutzkamp discloses a cooling system of an electrical machine. Okamoto et al disclose a device for draining cooling liquid of a liquid cooled rotor. Vaghani et al disclose a generator rotor cooling.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naishadh N. Desai whose telephone number is (571) 270-3038. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2204. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Naishadh N Desai
Patent Examiner


DARREN SCHUBERG
SUPERVISOR PATENT EXAMINER
TECHNOLOGY CENTER 2000